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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,302	04/14/2004	Kyung-Tae Park	5000-1-586	5968

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EXAMINER	
BLEVINS, JERRY M	
ART UNIT	**PAPER NUMBER**
2883	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/824,302	PARK, KYUNG-TAE	
	Examiner	Art Unit	
	Jerry Martin Blevins	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *16-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/27/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Invention 1 in the reply filed on 01/23/2006 is acknowledged.

Drawings

The drawings are objected to because Figure 3 is not easily discernable. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 9 is objected to because of the following informalities: the claimed "polycarbonate containing silicone" has no antecedent basis in the indicated base claim 1. For purposes of examination, examiner interprets claim 9 as to depend from claim 7. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pre Grant Publication to Konstadinidis et al., number 2005/0184411.

Regarding claim 1, Konstadinidis teaches a cable (Figures 1 and 2) for use in air blowing installation (page 1, paragraph 6 and page 4, paragraph 40) comprising: at least one transmission media (ribbons 13 comprising fibers 14) of electrical or optical signals; and a hollow cylindrical tube (Figure 1) containing the transmission medium therein, the tube being formed at a surface thereof with a plurality of recesses (12)..

Regarding claim 2, Konstadinidis teaches that the transmission medium comprises an optical fiber ribbon (13) having a plurality of optical fibers (14) (page 1,

paragraph 4, and page 4, paragraph 40) and a protective layer surrounding the individual optical fibers (page 2, paragraph 19).

Regarding claim 14, Konstadinidis teaches that the protective layer s formed by applying a liquid-phase UV curable resin to the plural optical fibers and irradiating ultraviolet rays to the resin (page 2, paragraph 19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Patent to Uemiya et al., number 5,345,545 .

Regarding claims 3 and 4, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube is made of amorphous material containing silicone. Uemiya teaches a layer surrounding optical fibers made of amorphous material containing silicone (column 4, lines 44-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis with the amorphous silicone of Uemiya. The motivation would have been to provide an improved buffer layer (column 4, lines 44-55).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Patent to Szum et al., number 6,399,666.

Regarding claims 5 and 6, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube is made of polycarbonate which has a molecular weight of more than 18000. Szum teaches a layer surrounding optical fibers made of polycarbonate which has a molecular weight of more than 18000 (column 50, line 22 – column 51 – line 18, specifically column 50, lines 64-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis with the polycarbonate of Szum. The motivation would have been to improve the ease of removing optical fibers from the tube (column 50, lines 41-44)

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Patent to Benson, Jr. et al., number 5,905,826.

Regarding claims 7 and 8, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube is made of polycarbonate containing silicone, wherein the content of the silicone is in a range of 0.01 to 0.5 percent by weight based on the weight of the polycarbonate. Benson teaches a layer surrounding optical fibers made of polycarbonate containing silicone (column 6, lines 9-30). While Benson does not teach that the content of the silicone is in the specific range of 0.01 to 0.5 percent by weight based on the weight of the polycarbonate, Benson does teach the overlapping range of less than 10 percent (column 6, line 25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of

Konstadinidis with the polycarbonate containing silicone, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve light transmission through the tube (column 5, line 60 – column 6, line 8).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of Benson as applied to claim 7 above, and further in view of US Patent to Cooke et al., number 5,561,731.

Regarding claim 9, Konstadinidis in view of Benson teaches the limitations of the examiner interpreted base claim 7. Konstadinidis does not teach that the polycarbonate containing silicone has a frictional coefficient of less than 1. Cooke teaches a layer surrounding optical fibers made of material having a frictional coefficient of less than 1 (column 2, lines 5-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis with the material having a frictional coefficient of less than 1 of Cooke. The motivation would have been to improve the ease of inserting fiber in the tube (column 2, lines 5-24 and column 3, lines 31-37).

Claims 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Pre Grant Publication to Castellani et al., number 2004/0197059.

Regarding claims 10 and 11, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach a water blocking filler provided in an interior empty space of the tube, wherein the water blocking filler includes a jelly compound. Castellani teaches a water blocking filler provided in an interior empty space of a tube surrounding optical fibers, wherein the water blocking filler includes a jelly compound (page 4, paragraph 56). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify cable of Konstadinidis with the water blocking filler of Castellani. The motivation would have been to reduce the possibility of water damage.

Regarding claim 13, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach an outer diameter in a range of 1.5 mm to 4.0 mm. While Castellani does not teach the exact range, Castellani does teach a cable outer diameter in the overlapping range of 2.0 mm – 6.0 mm, and a preferred subset range of 2.5 mm – 4.0 mm (page 3, paragraph 50). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cable of Konstadinidis such that the outer diameter is in a range of 1.5 mm – 4.0 mm, a subset of which is taught by Castellani, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to increase the number of fibers inside the tube.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of Cooke.

Regarding claim 12, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube has a clearance in the range of 0.5 mm to 1.5 mm. Although Cooke does not teach a tube with the exact clearance range, Cooke does teach a tube surrounding optical fibers with a clearance in the overlapping range of 0 mm – 1 mm (column 8, lines 13,14; 39, 40; 62, and column 9, line 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis such that it has a clearance in a range of 0.5 mm – 1.5 mm, an overlapping range of which is taught by Cooke, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve the ease of insertion of the fibers in the tube.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pre Grant Publication to Velikov, number 2002/0131703.

Regarding claim 15, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the plurality of recesses has a crater shape. Velikov teaches a cable comprising a plurality of crater-shaped recesses (page 2, paragraph 22). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cable of Konstadinidis with the crater-shaped recesses of Velikov. The motivation would have been to improve the alignment of the fibers (page 2, paragraph 22).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMB

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